

Fig. 2

Results of tensile strength test of native canine aorta.

| Testing machine | RTC serie | es | | | | Extension | 1 | |
|---------------------------|-----------|-----|----------------------------|-------------------------|--------------------------------|-------------|------|----|
| Load in full-scale | 5 | kgf | | | Rated capacity of load cell | 100 N | | |
| Range of load | | | Rated capacity of the | 20 om | | | | |
| Range of the extensometer | unapplied | | | Test Speed | 10,0 mm/min | | | |
| Recording speed off | | | | Rigidity of the testing | . 0 | 0 mm/kgf | | |
| Midpoint (load) | 0 | 0 | | 0 | Midpoint | 0 | 50 | 80 |
| N | 0 | 0 | | 0 | (extension) om | 0 | Ö | (|
| Analysis of | Interval | 1 | 5 | Ю | Initial length Distance bet | ween chunks | 10 | mm |
| Elastic moduli | Pitch | 1 | %max | | origin in extension initial | load point | 0.03 | N |
| slack correction | | | Determination of rupture 0 | 0.5 | N | | | |
| Storing SS curve | ON | | | | | | | |

| TestID=37 | Maximum load | Maximum load | | | | Elastic Modulus |
|------------------|-----------------|-----------------|--------|--------|--------|--------------------|
| Test No. | kgf | N | kgf | N | mm | MPa |
| 1 | 0,7591 | 7,4445 | 0.5038 | 4.9404 | 27.887 | 1.0918 |
| Average | 0.7591 | 7.4445 | 0.5038 | 4.9404 | 27.887 | 1.0918 |
| JIS weighted avg | 0,7591 | 7.4445 | 0,5038 | 4,9404 | 27.887 | 1.0918 |
| Median | 0.7591 | 7.4445 | 0.5038 | 4.9404 | 27.887 | 1.0918 |
| Maximum | 0.7591 | 7.4445 | 0.5038 | 4.9404 | 27.887 | 1.0918 |

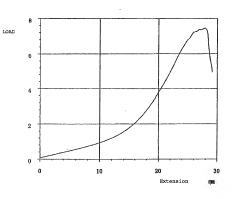


Fig. 3

Results of tensile strength test of valves by means of decellularization cell method by SDS

| Testing machine | RTC seri | es | | Type of testing | Extensio | | | | |
|---------------------------|----------|-----|------|---------------------------|---------------|--------|---|--|--|
| Load in full scale | 5 | kgf | | Rated capacity of load | 100 | 100 N | | | |
| Range of load | 40 | %RO | | Rated capacity of the | 20 | cm | *************************************** | | |
| Range of the extensometer | unapplie | d | | Test Speed | 10.0 | mm/min | | | |
| Recording speed off | | | | Rigidity of the testing | 0 | mm/kgf | | | |
| Midpoint (load) | 0 | 0 | | 0 Midpoint | 0 | 50 | 60 | | |
| N. | 0 | 0 | | (extension) cm | 0 | 0 | C | | |
| Analysis of | Interval | 1 | 5 | O Initial length Distance | between chunk | 10 | mm | | |
| Elastic moduli | Pitch | 1 | %max | origin in extension init: | al load point | 0.03 | N | | |
| slack correction | applied | | | Determination of rupture | 0.5 | N | | | |
| Storing SS curve | ON | | | 1 | 1 | | | | |

| TestID=17 | Maximum | Maximum | Rupture | Rupture | Elastic |
|-----------------|---------|----------|---------|---------|---------|
| | load | load | load | load | Modulus |
| Test No. | kgf | N | kaf | N | MPa |
| 1 | 1.0401 | 10,200 | 1.0284 | 10.085 | 2.5168 |
| 2 | 0.7095 | 6.9574 | 0.6856 | 6.7231 | 1,4561 |
| 3 | 0.7142 | 7.0038 | 0.6339 | 6.2164 | 1.4976 |
| 4 | 0.8572 | 8,4063 | 0.8503 | 8.3387 | 1.6830 |
| 5 | 0.6693 | 6.5639 | 0.6613 | 6,4847 | 1,1928 |
| Average | 0.7981 | 7.8263 | 0,7719 | 7.5696 | 1,6653 |
| IS weighted avg | 0.9196 | 9.0180 | 0.9040 | 8.8649 | 2.0527 |
| Median | 0.7142 | 7,0038 | 0.6856 | 6.7231 | 1.4976 |
| Maximum : | 1.0401 | . 10,200 | 1.0284 | 10.085 | 2.5168 |
| SD(n-1) | 0.1529 | 1,4996 | 0.1663 | 1,6313 | 0.5050 |
| SD(n) | 0.1368 | 1.3413 | 0.1488 | 1.4591 | 0.4517 |

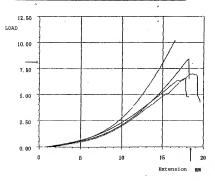


Fig. 4

Results of tensile strength test of the decellularized tissue (1) with a coating of PVA onto an artificial valve prepared by the decellularized method using SDS

| Testing machine | RTC seri | es | | Type of testing | Extension | | | |
|---------------------------|----------|-----|------|--------------------------|----------------|------|----|--|
| Load in full-scale | 5 | kgf | | Rated capacity of load | 100 N | | | |
| Range of load | 40 | %RO | | Rated capacity of the | 20 cm | | | |
| Range of the extensometer | | | | Test Speed | 10.0 mm/min | | | |
| Recording speed off | | | | Rigidity of the testing | 0 | | | |
| Midpoint (load) | 0 | 0 | | Midpoint | 0 | 50 | 60 | |
| N | 0 | 0 | | (extension) cm | | 0 | (| |
| Analysis of | Interval | 1 | 50 | Instant length Distance | between chunks | 10 | mm | |
| Elastic moduli | Pitch | 1 | %max | origin in extension init | al load point | 0.03 | N | |
| slack correction | applied | | | Determination of rupture | 0.5 | N | | |
| Storing SS curve | ON | | | | 1 | | | |

| TestID=140 | | Maximum | Rupture | Rupture | Maximum Extension | Elastic Modulus |
|----------------|--------|---------|---------|---------|----------------------|--------------------|
| | load | load | load | load | | |
| Test No. | kgf' | N | kgf_ | N | mm | MPa |
| 1 | 1,0359 | 10,158 | 0.8376 | 8,2140 | 21.667 | 1.2612 |
| 2 | 1.3339 | 13.082 | 1.1904 | 11,674 | 24.060 | 1.2459 |
| 3 | 1.5541 | 15.240 | 1.1569 | 11.345 | 19.507 | 1.5948 |
| 4 | 1.4570 | 14,268 | 1.2815 | 12.567 | 19.267 | 2.0703 |
| Average | 1.3452 | 13,192 | 1,1166 | 10.950 | 21,125 | 1.5431 |
| S weighted avg | 1.4511 | 14.231 | 1,1973 | 11.742 | 22.407 | 1.7643 |
| Median | 1,3955 | 13.685 | 1.1737 | 11.510 | 20.587 | 1.4280 |
| Maximum | 1.5541 | 15.240 | 1.2815 | 12.567 | 24.060 | 2.0703 |
| SD (n-1) | 0.2251 | 2.2071 | 0,1933 | 1.8958 | 2.2346 | 0.3866 |
| SD(n) | 0 1949 | 1.9114 | 0.1674 | 1,6418 | 1.9352 | 0.3348 |

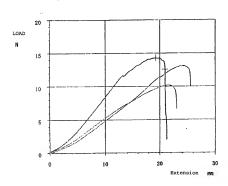
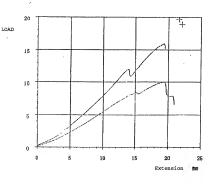


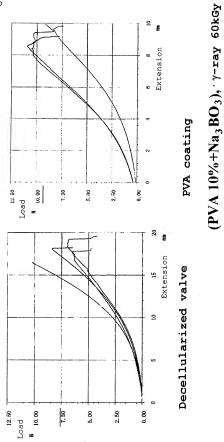
Fig. 5

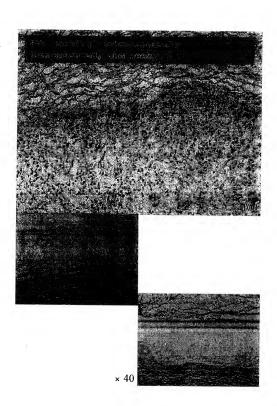
Results of tensile strength test of the decellularized tissue (2) with a coating of PVA onto an artificial valve prepared by the decellularized method using SDS

| Testing machine | RTC seri | es | | Type of testing | Extension | on | |
|---------------------------|----------|-----|------|----------------------------|---------------|--------|----|
| Load in full-scale | 5 kgf | | | Rated capacity of load | 100 N | | |
| Range of load | | | | Rated capacity of the | 20 | cm | |
| Range of the extensometer | | | | extensometer Test Speed | 10.0 | mm/min | |
| Recording speed off | | | | Rigidity of the testing | 0 | mm/kgf | |
| Midpoint (load) | 0 | 0 | . 0 | Midpoint | 0 | 50 | 60 |
| N | 0 | 0 | | (extension) cm | . 0 | 0 | 0 |
| Analysis of | Interval | 1 | | Initial length Distance 1 | | 10 | mm |
| Elastic moduli | Pitch | - 1 | %max | origin in extension initia | al load point | 0.03 | N |
| slack correction | applied | | | Determination of rupture | 0.5 | N | |
| Storing SS curve | ON | | | l l | | | |

| TestID=141 | Maximum load | Maximum load | Rupture load | Rupture load | Maximum Extension | Elastic Modulus |
|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------|--------------------|
| | | | | | | |
| Test No. | kgf | N | kgf | N | mm | MPa |
| 1 | 1.0167 | 9.9703 | 0.9436 | 9.2538 | 19.327 | 1.2964 |
| 2 | 1.8216 | 15.902 | 1,1853 | 11.623 | 19.307 | 1.8565 |
| 3 | 2,0021 | 19.634 | 1.9176 | 18.806 | 21,847 | 1,9274 |
| Average | 1.5468 | 15,169 | 1.3488 | 13,228 | 20.093 | 1,6934 |
| IS weighted avg | 1.8275 | 17,921 | 1.6738 | 16.414 | 20.949 | 1.8501 |
| Median | 1.6216 | 15.902 | 1,1853 | 11.623 | 19.327 | 1.8565 |
| Maximum | 2.0021 | 19,634 | 1.9176 | 18.806 | 21.847 | 1,9274 |
| SD (n-1) | 0.4970 | 4.8734 | 0.5072 | 4,9739 | 1.3453 | 0,3457 |
| SD(n) | 0.4058 | 3.9791 | 0.4141 | 4.0612 | 1.0984 | 0.2822 |







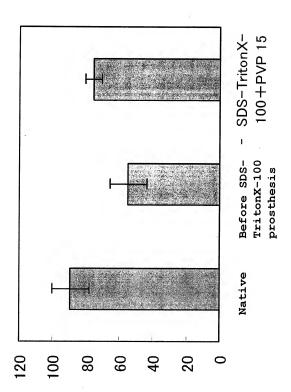


Fig. 9

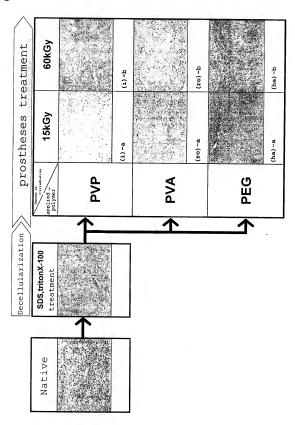


Fig. 10

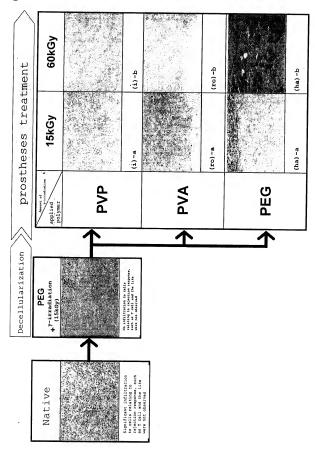


Fig. 11

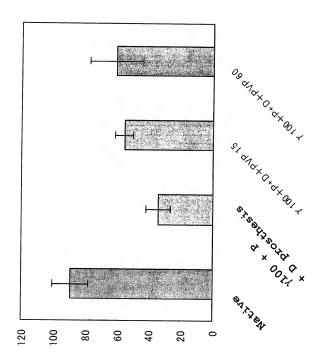


Fig. 12

